

Work Order ID 154427

Tuesday, December 13, 2016 7:59:55 AM

154427

Page 1

Item ID: D4025-5 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Fuel Quantity Sender
Start Date: 12/13/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 12/28/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: DAS 13 9-89 Date: DEC 13 2016 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4025	B

100

100

Purchasing

Purchasing

Memo

Issue P/O: 34664
Purchase part as per Dwg D4025
Part #: 224-260
Possible Supplier: Forsters Intruments
Material release note required

0.00

0.00

2DEC 16 2016DAS 13 9-89

110

110

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs

Memo

***HOLD IN VERTICAL POSITION AND MEASURE RESISTANCE
READING FOR LOWER LIMIT. ROTATE 180 DEGREES AND MEASURE
RESISTANCE FOR UPPER LIMIT AS PER DWG***

REMOVE TRANSPORT PIN

0.00

0.01

2x SP17-01-10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : 							
Misidentified	☐	Past Due	☐								

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Page 2

Item ID: D4025-5

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Fuel Quantity Sender

Start Date: 12/13/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 12/28/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

REMOVE TRANSPORT PIN

2

DAS
38
9-89
JAN 20 2017

130

Identify as per dwg & Stock Location: 5240

0.00

130

Packaging

Memo

0.00

Packaging

2

JAN 24 2017

DAS
6
9-89

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.03

Quality Control

DAS
21
9-89

JAN 25 2017

ME
17-1-24

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
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Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
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Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : 							
Misidentified	☐	Past Due	☐								

Picklist Print

Tuesday, December 13, 2016 7:59:55 AM

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Work Order ID: 154427

154427

Parent Item: D4025-5

D4025-5

Parent Item Name: Fuel Quantity Sender

Start Date: 12/13/2016

Required Date: 12/28/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 11.11.22 NEW ISSUE DD VERF;EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
224-260		Purchased	No			110	Each	0.0000	1	2			
224-260									**				
Fuel Sender 224-260-SP													

2x SP17-01-10

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



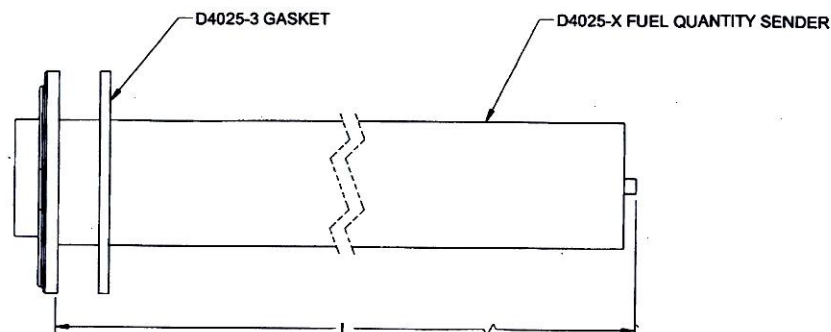
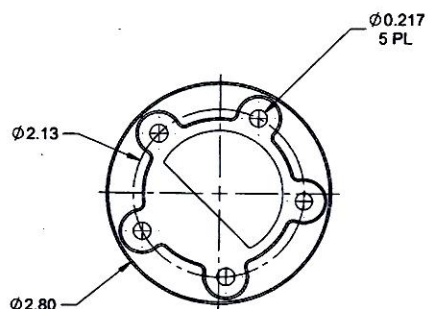
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
☐ OTHER : _____									

DART AEROSPACE PART NUMBER	JOHN CAMERON AVIATION PART NUMBER
D4025-1	VDO-M47-JCA
D4025-3	N/A
D4025-5	N/A

SPECIFICATION CONTROL DRAWING



DART PART NUMBER	DESCRIPTION	MANUFACTURER	MANUFACTURER PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	LENGTH "L"	LOWER RESISTANCE LIMIT	UPPER RESISTANCE LIMIT	MATERIAL
D4025-1	FUEL QUANTITY SENDER	VDO SIEMENS	224-011-000-650	FORSTER INSTRUMENTS	224-265	25.59	82.2 ± 2.5 OHMS	2.5 ± 1.5 OHMS	N/A
D4025-3	GASKET	VDO SIEMENS	N/A	FORSTER INSTRUMENTS	226-053	N/A	N/A	N/A	RUBBER
D4025-5	FUEL QUANTITY SENDER	VDO SIEMENS	224-011-000-600	FORSTER INSTRUMENTS	224-260	23.62	85.3 ± 2.5 OHMS	2.5 ± 1.5 OHMS	N/A

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4025-X" AND B/N USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D4025-1 - 0.39 lbs
D4025-3 - 0.01 lbs
D4025-5 - 0.37 lbs
- 8) RECEIVING INSPECTION REQUIREMENTS:
 - a) REMOVE TRANSPORT PIN AND INSPECT FOR VISUAL DAMAGE
 - b) OVERALL CYLINDER LENGTH - SEE TABLE
 - c) HOLD IN VERTICAL POSITION AND MEASURE RESISTANCE READING FOR LOWER LIMIT
 - d) ROTATE 180° AND MEASURE RESISTANCE FOR UPPER LIMIT

DAS
13
9-00

DEC 13 2016

W10:154427

RELEASED
2011-11-16

B	ADDED -3, ADDED SUPPLIER PART NO.	BC	11.10.04
A	NEW ISSUE	HS	10.02.05
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.10.04		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D4025	REV. B
TITLE FUEL SENDER	SHEET 1 OF 1
	SCALE NTS

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34664**

Purchase Order Date 12/16/2016 10:47:52 AM

PO Print Date 12/16/2016

Page Number 1 of 2

Order From :
FORSTER INSTRUMENTS
7141 EDWARDS BLVD
MISSISSAUGA, ON L5S 1Z2
CANADA

VC-FOR002

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA



DEC 16 2016

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	905 795 0555	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 30
Ship Via:	FedEx Overnight collect	Currency	CAD
Ship Acct:		FOB	FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	224-260	Fuel Sender 224-260-SP	1/4/2017		2.00	\$90.50	\$181.00
			Yes		Each		
			1/4/2017				
	AS PER DWG D4025 REV.B	DAS					
	B154427	38					
		3-89					

NOTE: Part need to be tested for OHMS and please include report

SPIT-01-10

Line Total: \$181.00

2	71401-45	PROCUREMENT QUALITY CLAUSES	1/4/2017		1.00	\$0.00	\$0.00
			No				
			1/4/2017				
	Procurement Quality Clauses						
	A005 right of entry						
	A016 personnel qualification						
	A026 certification of material conformance						
	A040 notification of quality escape						
	A041 quality management system						
	A043 retention of quality documents						

Note:

12/16/2016

**FORSTER INSTRUMENTS INC.**

7141 EDWARDS BLVD., MISSISSAUGA, ONTARIO L5S 1Z2
D - U - N - S 25 - 530 - 6649
PHONE (905) 795-0555 • FAX (905) 795-0570
TOLL FREE 1-800-661-2994 • TOLL FREE FAX 1-800-632-9943
Toll Free within Canada only

Automotive and Industrial Instruments, Controls and Equipment

TERMS AND CONDITIONS

- net 30 days from date of invoice unless otherwise stated.
- pay from invoice, statements upon request only.
- all claims for shortage must be made within ten days after receipt of goods.
- all claims for damage must be made with the carrier.
- all goods F.O.B. our Mississauga warehouse.
- orders subject to a minimum invoice value of \$50.00.
- goods cannot be returned without our Return Authorization Number.
- returned goods must be freight prepaid.
- any warranty expressed or implied is that of the manufacturer as stated in their literature.
- title of goods does not pass until goods are paid for in full.
- E. & O. E.

A/C 11.18

Page: 1

S
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D
DART AEROSPACE LTD.
1270 ABERDEEN STREET

T
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HAWKESBURY, ON K6A 1K7

S
H
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P
DART AEROSPACE LTD.
1270 ABERDEEN STREET

T
O
HAWKESBURY, ON K6A 1K7

CUSTOMER		CUST. ORDER NO.	G.S.T. NUMBER	PROV. TAX NO.	S/M TYPE	PACKED BY
DARAER		PO34664	R101272607		SLOA	
ORDER DATE	DATE SHIPPED		OUR SALES ORDER NO.	SHIPPING REF. NO.	SHIP VIA	
19.12.16			S71373	01	FED EX	
LINE NO.	QUAN.	SHIP.	B/O	PART NUMBER	DESCRIPTION	CODE

FED EX ACCT# 15179324-0

FUEL SENDER # 224-260-SP & ✓
224-265-SP NEED
TO BE CERTIFIED FOR ACCURACY
PER
CUSTOMER DRAWING.
PARTS NEED TO BE TESTED FOR
OHMS

FUEL SENDERS AS PER CUSTOMER
SPECS.
SHIP VIA FEDEX OVERNIGHT COLLECT

SHIP JAN 2, 2017
DUE JAN 4, 2017

003

2

0 224-260-SP

FUEL SENDER, 23.6", 54 mm DIA.
Pick 2 Sets; P:0 C:2

PRO

LINE 1

89701-10

DAS
38
7-89

LF